Province of
British Columbia
Ministry of
Health

DIVISION OF TUBERCULOSIS CONTROL

ANNUAL REPORT 1983

BC
785
B
1953
c.3

FOREWORD

This report presents statistical information about tuberculosis derived from the activities of the Division of Tuberculosis Control during the calendar year, 1983. The report covers the following aspects: in-patient treatment of tuberculous patients, treatment of active tuberculous disease as well as chemoprophylaxis, an analysis of new active cases, of contacts and tuberculosis-related mortality; case-finding programmes are reviewed. Information respecting North American Indians refers only to Registered (Status) Indians, who constitute a distinct administrative group for which health care is provided, for the most part, by the Federal Government.

E.A. ALLEN, M.B., F.R.C.P.(C),
Director.

DIVISION OF TUBERCULOSIS CONTROL

TABLE OF CONTENTS

	Page
FOREWARD	i
Director's Report	vi
INSTITUTIONS	
Table 1. - Total Admissions by Age, and Percentage of Total Admissions in Each Group, British Columbia, 1979-1983	1
Table 2. - Total Admissions to Tuberculosis Institution, V.G.H.,T.B.3, by Diagnosis, Age-Group, and Sex, British Columbia, 1983.	2
Table 3. - Total Admissions by Diagnosis, Sex and Type of Admission, British Columbia, 1983	3
Table 4. - Total Admissions by Diagnosis, Ethnic Origin and Sex, British Columbia, 1983	4
Table 5. - Discharges From Tuberculosis Institution, V.G.H., T.B.3, by Diagnosis Upon Discharge, Sex and Length of Stay. British Columbia, 1983.	5
Table 6. - Discharges From Tuberculosis Institution, V.G.H., T.B.3, by Type of Discharge, Sex, and Length of Stay, British Columbia, 1983	6
Table 7. - Place of Treatment of Active Tuberculosis Cases by Principal Diagnosis, British Columbia, 1983	7
Table 8. - Place of Treatment of Active Tuberculosis Cases According to Principal Bacteriological Findings, British Columbia, 1983	8
TREATMENT	
Table 9. - British Columbia Residents on Chemoprophylaxis as of December 31, 1983	9
Table 10. - Persons on Out-Patient Drug Therapy (Anti-Tuberculosis) by Health District, Age-Group and Sex, as at December 31, 1983	10
DIAGNOSTIC & SURVEY CLINICS	
Table 11. - Diagnostic Services Provided by Tuberculosis Control, British Columbia, 1983	11
Table 12. - Survey Chest X-ray Services by Clinic and Abnormal Condition Detected. Tuberculosis Control, British Columbia	12
Table 13. - Number of Persons Vaccinated with B.C.G., British Columbia, 1982 & 1983	14

NEW ACTIVE TUBERCULOSIS

	Page
Table 14. - Incidence of Active Tuberculosis by Age-Group and Sex, British Columbia, 1983	15
Table 15. - Active Tuberculosis for All Cases and Bacillary Only, British Columbia, 1977 - 1983	16
Table 16. - Active Tuberculosis, Agency Providing Initial Investigation (Usually X-Ray) Leading to the Diagnosis. British Columbia, 1983	17
Table 17A.- Principal Diagnosis of Active Tuberculosis and Bacillary Cases, British Columbia, 1983	18
Table 17B.- Principal Diagnosis of Active Tuberculosis and Bacillary Cases, British Columbia, 1982	19
Table 18A.- Principal Diagnosis of Active Tuberculosis, Among Non-Indians and Indians, British Columbia, 1983	20
Table 18B.- Principal Diagnosis of Active Tuberculosis, Among Non-Indians and Indians, British Columbia, 1982	21
Table 19. - Active Tuberculosis, by Age, Sex and Diagnosis, (Bacillary Only), British Columbia, 1983	22
Table 20. - Active Tuberculosis, by Age Group, Sex and Diagnosis, (All Active Cases), British Columbia, 1983	23
Table 21. - Active Tuberculosis by Health District of Residence, for Bacillary Cases and all Active Cases. British Columbia, 1983	24
Table 22. - Bacteriological Status of Active Cases of Pulmonary Tuberculosis, British Columbia, 1983	25
Table 23. - Active Tuberculosis Arising in Persons in Various Diagnostic Categories Routinely Followed up by Tuberculosis Control Clinics.	26
Table 24A.- Incidence of Active Tuberculosis by Ethnic Origin, British Columbia, 1983	27
Table 24B.- Incidence of Active Tuberculosis Among Canadian Born and Foreign-Born, British Columbia, 1983	28
Table 25. - Contribution of Reactivations to Total Active Tuberculosis Cases by Age Group, British Columbia, 1983	29
Table 26. - Total Active Cases of Tuberculosis (New Active and Reactivated Cases), Rates per 100,000 Age-Specific (Estimated) Population, British Columbia, 1974-1983	30

Page

Table 27. - New Active and Reactivated Tuberculosis Cases Among All Races, Excluding Registered Indians, British Columbia, 1978–1983 31

Table 28. - New Active and Reactivated Tuberculosis Cases Among Registered Indians, British Columbia, 1978–1983 32

Table 29. - Active Tuberculosis Showing Major Occupation Groups and Bacteriological Status, British Columbia, 1983. 33

CONTACT TRACING

Table 30. - Contact Investigation - Morbidity - by Age and Initial Tuberculin Status of Contacts and Bacillary Status of Source: Type of Source: Pulmonary Tuberculosis, Active (Diagnosed in 1983). Type of Contact: Household, Under and Over 20 years (Diagnosed in 1983). British Columbia, 1983 34

Table 31. - Contact Investigation - Morbidity - by Age of Contacts and Proximity of Contact. Type of Source: Pulmonary Tuberculosis, Active, (Diagnosed in 1983). Type of Contact: Household and Non-Household (Diagnosed in 1983). British Columbia, 1983. 35

Table 32. - Contact Investigation - Morbidity - by Initial Tuberculin Status of Contacts, Proximity of Contact and Bacillary Status of Source. Type of Source: Pulmonary Tuberculosis, Active, (Diagnosed in 1983). Type of Contact: Household and Non-Household, (Diagnosed in 1983). British Columbia, 1983. 36

Table 33. - Contact Investigation - Tuberculin Status - by Age of Contact and Bacillary Status of Source. Type of Source: Pulmonary Tuberculosis, Active (Diagnosed in 1983). Type of Contact: Household. British Columbia, 1983 37

Table 34. - Contact Investigation - Tuberculin Status - by Age of Contact and Bacillary Status of Source. Type of Source: Pulmonary Tuberculosis, Active (Diagnosed in 1983). Type of Contact: Non-Household. British Columbia, 1983 38

TUBERCULOSIS MORTALITY

Table 35. - Tuberculosis (Active) Deaths Notified on Death, British Columbia, 1983 39

Table 36. - Tuberculosis (Active) Deaths by Diagnosis, British Columbia, 1983 39

Table 37. - Tuberculosis (Active) Deaths by Country of Birth, British Columbia, 1983 40

Table 38. - Tuberculosis (Active) Deaths by Age and Sex, British Columbia, 1983 40

Table 39. - Tuberculosis (Active) Deaths by Diagnosis and Bacillary Status, British Columbia, 1983 41

NEW ACTIVE TUBERCULOSIS AMONG REGISTERED INDIANS

Page

Table 40. - Incidence of Active Tuberculosis Among Registered Indians, Age-Group and Sex, British Columbia, 1983 42

Table 41. - Principal Diagnosis of Active Tuberculosis Among Registered Indians and Bacillary Cases, British Columbia, 1983 43

Table 42. - Active Tuberculosis by Health District of Residence for Registered Indians, British Columbia, 1983 44

DIRECTOR'S REPORT
DIVISION OF TUBERCULOSIS CONTROL
E.A. Allen, M.B., F.R.C.P.(C)

The Division of Vital Statistics provides a valuable statistical service to the Division of Tuberculosis Control. Summaries of all medical records including notifications, follow-up reports, active case registry and treatment records are processed by the computer system monthly, by the Division of Vital Statistics. In addition, the Division of Vital Statistics arranges to provide annual listings of all the known cases of tuberculosis and selected non-tuberculous cases to the Tuberculosis Registry, as well as a number of special listings separately for tuberculous and non-tuberculous cases. The Annual Statistical Report is prepared for the Director by a Research Officer of the Division of Vital Statistics.

The five major sections of this report encompass the following subjects: INSTITUTIONS, DIAGNOSTIC AND SURVEY CLINICS, NEW ACTIVE CASES, CONTACT TRACING AND MORTALITY.

1983
TUBERCULOSIS IN-PATIENT SERVICE
(Tables 1 - 8)

The in-patient service referred to in this report is provided by a specially designed ward dedicated to tuberculosis treatment and under the responsibility of the Vancouver General Hospital. It is housed in the Willow Chest Centre and offers 25 beds. Patients with active tuberculous disease are also admitted to other wards in the Vancouver General Hospital and other general hospitals in the Province outside the above specific tuberculosis in-patient service. These other in-patients are in a minority and are usually admitted for short periods.

ADMISSIONS:

The total number of admissions during 1983 was 141, a slight rise from the previous year. Of this number, 115 had active tuberculosis, 6 having non-tuberculous disease and 10 having mycobacterial disease other than that caused by tubercle bacilli. Ten with previously inactive disease were admitted for possible reactivation which was not confirmed. Of the 115 tuberculous cases, 24 were re-admissions (21 percent). Since 368 active cases of tuberculosis were diagnosed during 1983, the 93 persons with active tuberculosis admitted in the year represent 25.3 percent of the total. Of the 115 admissions, 110 had primarily pulmonary tuberculosis whereas 5 had non-pulmonary disease. The ratio of male to female was 104 to 37, i.e. 74 percent of those admitted were males, an approximate ratio of 2.8 males to 1 female. A disproportionate number of North American Indians, Chinese, and East Indians were admitted, the proportions being 27 percent[1], 13 percent and 7 percent respectively. Above the age of 20 years, each decade had approximately the same number of admissions, the highest number belonging to the decade 40-49 years.

DISCHARGES:

An analysis of the discharges from sanatorium in 1983, which totalled 143 (including all diagnostic categories) shows that 122 or 85 percent were discharged before the end of 3 months. This compared with 69 percent in 1982, thus confirming a trend towards shorter hospitalization. All but 4 of the remaining 21 patients were discharged before 6 months. The average length of stay for an active cases being 57 days or 8 weeks. Patients with

[1]Includes both Registered (30) and non-status (8) Indians.

active tuberculosis contributed a total of 6,856 patient-days in hospital.

Other mycobacterial disease, non-tuberculous disease and inactive tuberculosis accounted for 884 additional patient-days or 11 percent of the total patient-days provided by all admissions to this ward. In Table 6, dealing with the various types of discharge from hospital, the two categories "against medical advice" and "disciplinary" should be understood to represent an underestimate of those who leave earlier than is considered wise by the responsible physician, based on a variety of practical, legitimate concerns. In an effort to maintain rapport with such patients, a physician will often reluctantly accede to an earlier discharge "on medical advice".

Eighty five percent of the pulmonary cases admitted to hospital were positive on smear, underlining the fact that a major concern was the temporary isolation of patients during the early phases of treatment to reduce the risk of transmission of disease to their close contacts - often young persons or children in the same house. The latter is far from being the only concern and in persons admitted there is usually a multiplicity of problems including compliance, drug reaction, drug resistance, associated illness, drug and alcohol abuse and socio-economic factors.

In summary, a very high percentage of those admitted to the Tuberculosis ward in the Vancouver General Hospital are confirmed cases of active infectious pulmonary tuberculosis. Most are male, they belong to all age groups and a disproportionate number are Native Indians. Their stay is relatively short (average 8 weeks).

CHEMOPROPHYLAXIS
(Table 9)

On December 31, 1983, 693 residents of British Columbia were on preventive drug treatment with Isoniazid for a variety of indications related to their increased risk for the development of active tuberculosis. This represents a ten percent drop from the 740 who were on similar therapy as of December 31st, 1982.

The 693 persons had the following ethnic distribution (based largely upon country of origin).

	Number	Percent
White	388	56
Chinese	105	15
East Indian	51	7
Vietnamese	45	6
Registered (Status) Indians	80	11
Non-status Indians	23	3

Table 9 shows that the most common indication for chemoprophylaxis was evidence of infection in a contact of an active case.
It is assumed that many thousands of persons in British Columbia have had tuberculosis and either have never had treatment or been inadequately treated. Such persons are at increased risk of reactivation and are candidates for preventive Isoniazid treatment. The fact that only 83 persons with inactive pulmonary tuberculosis were offered such treatment in 1983 underscores the problems associated with this approach. Depending on the estimates of the possible number of candidates belonging under this heading one might speculate that between a half and one percent of them are offered treatment each year.

ANTI-TUBERCULOSIS TREATMENT
(Table 10)

On December 31st, 1983, 399 persons were on antimicrobial drug therapy for tuberculosis. 238 (60 percent) were males and 161 (40 percent) were females. Thirty-eight (9 percent) were under the age of fifteen, 276 (69 percent) were between the ages of fifteen and sixty-four and 85 (21 percent) were aged sixty-five years or older. Two hundred (50 percent) came from the City of Vancouver.
An additional 19 persons were receiving antimicrobial drug therapy for mycobacteria other than tuberculosis.

DIAGNOSTIC AND SURVEY CLINICS
(Tables 11 - 12)

In Table 11, a summary of the diagnostic services provided by the Division of Tuberculosis Control is given. The number of patient visits to the clinics of the Division was 35,774 during 1983. There follows a short table illustrating the trend for patient visits over the last decade.

PATIENT VISITS TO CLINICS OF T.B.CONTROL, B.C.

1973	-	46,943
1976	-	35,970
1980	-	51,755*
1981	-	45,094*
1982	-	44,149*
1983	-	35,774

* The Southeast Asian refugee programme contributed to the increase in these years.

In Table 12, the yield in terms of various abnormal chest conditions, for the survey chest x-ray services of the Division is detailed. The yield for new pulmonary tuberculous cases of various kinds - active, inactive and presumed tuberculosis (apical scarring), was 82 persons or a yield for this programme of 680 per 100,000 persons x-rayed.. The number of persons with active tuberculosis was 10 for a rate of 83 per 100,000, i.e. six times the provincial annual incidence rate.

B.C.G.VACCINATION
(Table 13)

During 1983, 717 persons received B.C.G. vaccination, a small drop from the 733 persons who received B.C.G. in 1982. Of this number 611 or 83 percent were Registered Indians, the great majority of whom represented newborn children. 304 or 51 percent of the 601 Registered Native Indians on reserve who were born during 1983 received the vaccine.

ACTIVE CASES
(Tables 14 - 29)

For purposes of this report, "active cases", when unqualified, will refer to persons with active tuberculosis who were diagnosed during 1983; it will exclude those persons diagnosed active in previous years but who have remained continuously active into the current year. The term "new active" will refer to those persons diagnosed as having active tuberculosis during the current year but who were not known or suspected to have had an active episode of tuberculosis prior to the current year. The term "reactivated" includes two groups of persons (i) those with a documented previous episode of active tuberculosis (Reactivation Type I) and (ii) those with evidence of healed disease of such a typical nature that it leads to a presumption of inactive tuberculosis (Reactivation Type II). Evidence of the latter usually consists of a chest x-ray showing apical fibrosis or scarring in a person with a positive tuberculin test.
The numbers belonging in these various categories are summarized in Summary-Table A.

ACTIVE CASES
SUMMARY - TABLE A

	Number	Percent
Cases diagnosed active in 1983:		
New active: not known to be previously active	294	80%
Reactivated:	74	20%
Previously documented active T.B.	(55)	(15%)
Previously presumed T.B.inactive	(19)	(5%)
TOTAL	368	100%
Provincial Rate: 13.0 per 100,000		
Sex distribution:		
Male	235	64%
Female	133	36%
TOTAL	368	100%

It will be seen that 368 persons were diagnosed as having active tuberculosis during 1983 providing a provincial annual incidence rate of 13.0 per 100,000, a decline from 15.2 per 100,000 in the previous year (a decline of 14.5%). The sex distribution, predominantly male (approx.2:1) is also summarized in Summary-Table A.

ORIGINAL INVESTIGATIONS

(Table 16)

(This refers to test procedures other than simple clinical examination by history and physical examination).

The agency providing the initial investigation (usually an x-ray) leading eventually to the diagnosis of active tuberculosis was analyzed. This investigation did not necessarily result in a correct diagnosis of active tuberculosis being made at that time but it started the process towards the diagnosis which in many instances was only later confirmed by other physicians or investigations, quite commonly within the Division of T.B. Control.

Some of the results noted are as follows:

(i) In 22 percent of cases, the initial diagnostic investigation was undertaken by one of the units of the Division in the course of contact tracing, survey and surveillance programs and in the investigation of persons referred from outside physicians or agencies or on self-referral.

(ii) In 2 percent of cases, initial investigation was undertaken by one of the units of the Indian Health Services.

(iii) Private radiologists and the x-ray departments of general hospitals along with other forms of investigation undertaken in general hospitals either as in-patients or out-patients provided the initial diagnostic investigation of the majority of persons diagnosed as having active tuberculosis during the current year (246 or 67 percent). Often the diagnosis had not been suspected clinically.

(iv) The role of diagnostic resources other than x-ray is illustrated by the fact that 20 percent of the 246 patients were diagnosed by this means. Not infrequently the diagnosis was an unexpected finding at histology.

(v) Four (4) percent of the patients were first diagnosed at the time of their death.

The role the Division plays in contact surveys, surveillance of persons at increased risk, screening of selected employment groups and as a consulting

service represents its contribution towards early diagnosis. The major contribution towards initial diagnostic testing must, of necessity and for logistical reasons, be played by the practising physicians of this province. This fact is well illustrated by the above analysis. More particularly it points up the opportunity which exists for all physicians to assist in the task of early detection by including this disease in the differential diagnosis when appropriate. It is the duty of the Division, the Health Officers of the Province and medical educators to make sure that all practising physicians understand when it is appropriate to consider the diagnosis and what investigations should be done.

BACTERIOLOGICAL CONFIRMATION OF ACTIVE TUBERCULOSIS

There were 296 (80%) pulmonary and 72 (20%) non-pulmonary cases. Of the pulmonary cases, where the bacteriological status was known, 83 percent were bacteriologically confirmed and 55 percent yielded a positive direct smear for tubercle bacilli (Summary Table B).

Eighty-three percent of all cases where the bacillary status was known were bacteriologically confirmed in 1983. In 7 percent of the total of 368 active cases reported in 1983, the bacillary status was not known or was not determined. Most such instances represent post mortem or histological diagnoses in which a suitable specimen for bacteriology was not obtained. In summary, a high percentage of cases was confirmed bacteriologically.

It is important that there be bacteriological re-confirmation before deciding on reactivation; otherwise, this designation may be entertained too lightly in cases of minor or doubtful alteration of shadows on x-ray. The proportion of reactivated cases with positive bacteriology illustrates that the latter tendency was not prevalent.

Native Indians presented a similar rate of positive bacteriology to that applying to the total number of active cases thereby confirming that the same criteria for diagnosis were applied to this group as to the rest of the population.

Tables 17A and B, 19 and 21, 22, 24A and B and 25, all give further details of the bacillary status of various categories of patient or diagnosis. In Table 22, it is seen that at least 228 persons with active pulmonary tuberculosis produced sputum and a further 20 of those whose initial bacteriological diagnosis was established by means other than sputum subsequently produced a sputum specimen. Thus 84% of those with active pulmonary tuberculosis had sputum. Given the inclusion of persons with primary tuberculosis, minimal disease and pleurisy, this high percentage underlines the great importance of sputum as a diagnostic method.

HEALTH DISTRICT OF RESIDENCE - ACTIVE TUBERCULOSIS

(Table 21)

Highest rates were obtained in Metro Vancouver (23 per 100,000 or nearly double the Provincial rate). Cariboo, Skeena, Northern Interior and Peace River districts were all above Provincial rate but only slightly so.

BACTERIOLOGICAL CONFIRMATION OF ACTIVE T.B. 1983.
SUMMARY - TABLE B

by Anatomical Site:

	Pos. smear	Pos. cult. only	Culture/ and/or smear	NUMBER	PERCENT
PULMONARY (incl.pleurisy)					
Bacillary	153	81	234	234	83
Non-Bacillary				47	17
Sub-TOTAL				281	100
Bacillary status not known or not determined				15	(5)
TOTAL				296	(100)
NON-PULMONARY Bacillary	(not available)			47	80
Non-Bacillary				12	20
Sub-TOTAL				59	100
Bacillary status not known or not determined				13	18
TOTAL				72	(100)
ALL CASES					
Bacillary				281	83
Non-Bacillary				59	17
Sub-TOTAL				340	(100)
Bacillary status not known or not determined				28	(7)
TOTAL: ACTIVE CASES				368	(100)

BACTERIOLOGICAL CONFIRMATION OF ACTIVE T.B. 1983
SUMMARY - TABLE B ..continued

by Extent and Type of Pulmonary Disease	TOTALS	# TESTED	BACILLARY NUMBER	BACILLARY PERCENT
Primary	23	17	7	41%
Minimal	121	116	95	81%
Moderately Advanced	77	77	73	95%
Far Advanced	44	44	44	100%
Pleurisy	22	19	11	58%
Tuberculoma	1	1	1	100%
Miliary	7	6	3	50%
Silico-Tuberculosis	1	1	1	(100%)
	296(1)	281	235	83%
by Prior Status for T.B.				
New Active	294	268	228	85%
Reactivated (incl. both "Prev. Act." & Presumed T.B.")	74	72	54	75%
	368	340	282	83%
by Native Indian Status (Registered)	50	48	42	91%

(1) Includes 15 cases in which bacillary status not known or not determined.

ACTIVE CASE YIELD OF ROUTINE FOLLOW-UP CLINICS
(Table 23)

This table illustrates that 29 percent of the active cases diagnosed in 1983 derived from the follow-up of those with inactive tuberculosis and those with various abnormalities, some suspected to be tuberculous in origin. Fifteen percent of all active cases derived from the follow-up of persons with inactive tuberculosis following a previously documented active episode. This underlines the importance of following such persons, particularly where prior treatment has been inadequate or where associated, predisposing conditions exist.

Of the various abnormalities listed only selected persons with inactive tuberculosis and presumed tuberculosis (inactive) are currently being recommended for routine follow-up. For the most part, this hinges on the quality of previous treatment for tuberculosis. Only very few other chest x-ray abnormalities are being routinely recalled.

ACTIVE TUBERCULOSIS BY ETHNIC ORIGIN
(Tables 24A, 24B)

Although not contributing unduly large numbers of cases, East Indians, Chinese, Vietnamese and Registered Indians demonstrated relatively high rates. In Table 24(B), the rates for Canadian-born and foreign- born are compared and these illustrate the significantly higher rates in those born outside Canada, a rate approximately three times that pertaining to the Canadian-born population. There has been concern that the foreign-born population not reflect a falsely high rate as a result of the contribution made by visitors who are not Canadian citizens nor landed immigrants. Only 6 of the 180 foreign-born group were visitors or on Minister's Permit. Registered (status) Native Indians had an incidence rate of 86 per 100,000, i.e. approximately twelve times the rate for whites in British Columbia.

NON-PULMONARY ACTIVE TUBERCULOSIS
(Tables 17A, 17B, 18A, 18B, 19,20)

The total number of non-pulmonary cases was 72 with 49% of them presenting primarily as tuberculous lymphadenopathy (35 cases). The next most common group was that having tuberculosis of the genito-urinary system (13 cases or 18 percent of all non-pulmonary cases). Of some concern is the fact

that only 69 percent of the cases of tuberculous lymphadenopathy were bacteriologically confirmed. This often results from a lack of awareness of the possibility of tuberculosis as the cause or from the mishandling of biopsy specimens. As mycobacteria other than tubercle bacilli assume a relatively greater role as a cause of mycobacterial lymphadenopathy, particularly in Canadian-born children, the necessity to identify the organism becomes increasingly important. It is of interest that the cases of lymphadenopathy were more or less evenly spread across all age groups in both sexes with the highest number being in the 25-34 age group.

CONTACTS OF SOURCE CASES WITH ACTIVE PULMONARY TUBERCULOSIS (Tables 30-34)

SUMMARY - TABLE C

SOURCE (Diagnosed in 1983)	HOUSEHOLD CONTACTS Diagnosed in 1983				
PULMONARY TUBERCULOSIS, ACTIVE - BACILLARY STATUS	NUMBER of CONTACTS (n = 358)	DISEASE ALL ACTIVE CASES		INFECTION POSITIVE TUBERCULIN REACTION (9 mm.)	
		No.	Percent	No./No.tested	Percent
Positive smear & culture	241	23	9.5	99/210	47.1%
Positive culture only	87	-	-	27/76	35.5%
Negative smear and culture	23	-	-	5/20	25.0%
TOTALS	351*	23	6.5	131/306**	43.0%

* Note: Excludes 7 contacts of active pulmonary source cases in which the bacteriological status was not stated.

** Note: 306 were tuberculin tested out of total of 358 household contacts, i.e. 12% were not given tuberculin tests.

In 1983, there were 1,825 contacts listed for the 368 active tuberculous cases diagnosed in 1983. 1,689 contacts were identified with the pulmonary source cases and 136 with the non-pulmonary source cases. As will be seen in the tables detailing the contact investigation, the relationships between the following aspects were studied - pulmonary source case, proximity of contact (whether household or non-household), age of contact, initial tuberculin status of contact, bacteriological status of the source case (whether positive on smear and culture, positive on culture only or negative on both smear and culture). Among the contacts of the pulmonary

cases, 31 cases of active tuberculosis were found giving a rate of 1,699/100,000. This is compared with the overall provincial rate of 13.0 per 100,000 for the same year. These cases among contacts constituted 8% of the total number of active tuberculosis cases diagnosed in 1983. Admittedly, 17 of the 31 persons with active disease among the contacts had primary tuberculosis (55%): yet, the 14 remaining cases would still provide a rate of 800 per 100,000 or many multiples of the background rate. Among the 136 contacts of non-pulmonary source cases, no active tuberculosis was found, perhaps making the same point as is made in Summary - Table C - and in the other tables, that the bacillary status of the source case is of considerable importance.

Summary - Table C - illustrates clearly the importance of the bacillary status of the active pulmonary source case to household contacts. The relationship is particularly evident for active tuberculosis among the contacts but it is also evident for positive tuberculin reactors. The latter relationship is less sharply defined since many of the adult contacts will have had a positive tuberculin reaction for a long time preceding the current exposure.

While there were no active cases in this category in 1983, the occurrence of disease among household contacts of pulmonary source cases with sputum negative on smear and culture is evidence either of transient infectiousness which has been missed by our normal contact procedures or perhaps more likely reflects the social environment which subjects tuberculous patients and their close contacts to a higher common risk of becoming infected.

In Table 30, the high rate of active disease among contacts under the age of 20 is illustrated (14.1 percent) where exposure is to active smear-positive, bacillary, pulmonary tuberculosis within the household; most of the cases derive from the age group 0-14 years.

The cases of active tuberculosis in the under 20 group were all found among those reacting positive to tuberculin at initial contact testing; Under the age of 20, 42 percent of household contacts of smear-positive cases exhibited a positive tuberculin reaction and were presumably infected. Again, in Table 32, the clear differences in risk of morbidity between household and non-household exposure is illustrated for source cases with similar bacillary status. In Table 33, the likelihood of becoming infected (and producing a positive tuberculin reaction) is related to age when this

relationship is studied against the bacillary status of the source case. Above the age of 30, a differential was not seen between exposure to a source who has positive smear and culture versus a source positive on culture only. In these older age groups, the presumption is that a high percentage will have been remotely infected through casual exposure.

TUBERCULOSIS MORTALITY

(Tables 35 - 39)

Twenty-six persons died with active tuberculosis during 1983. In the case of 3 of these, although they harboured active tuberculosis, this was not considered contributory to death. Although the number of persons dying from active tuberculosis (23) is relatively small, it is disturbing that a relatively high percentage of these (43%) is still only diagnosed after death. Since tuberculosis is an eminently treatable disease, one could argue that all deaths from tuberculosis are potentially avoidable.

ACTIVE TUBERCULOSIS AMONG REGISTERED INDIANS

(Tables 40 - 42)

Fifty Registered Native Indians developed active tuberculosis during 1983, contributing 14% of the total number of active cases for the province. The age and sex distribution, the type of disease, the bacillary status and the health districts from which these cases came are detailed in these tables. Registered (status) Indians exhibited an annual incidence rate in 1983 of 86 per 100,000 - nearly seven times the overall provincial rate.

SECTION I

INSTITUTIONS

TABLES 1 - 8

Table 1. TOTAL ADMISSIONS[1] BY AGE, AND PERCENTAGE OF TOTAL ADMISSIONS IN EACH GROUP, British Columbia, 1979-1983

AGE-GROUP	1979		1980		1981		1982		1983	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0 - 9 Years	2	2.0	-	-	2	1.4	4	3.0	-	-
10 - 19 Years	2	2.0	2	1.7	8	5.6	10	7.5	2	1.4
20 - 29 Years	17	16.8	14	11.8	17	11.9	25	18.6	14	9.9
30 - 39 Years	11	10.9	21	17.6	21	14.7	15	11.1	20	14.2
40 - 49 Years	19	18.8	18	15.2	19	13.3	21	15.6	30	21.3
50 - 59 Years	19	18.8	21	17.6	27	18.8	21	15.6	28	19.8
60 - 69 Years	14	13.9	23	19.3	23	16.1	19	14.2	25	17.8
70 - 79 Years	17	16.8	20	16.8	26	18.2	19	14.2	22	15.6
TOTAL	101	100.0	119	100.0	143	100.0	134	100.0	141	100.0

[1] Includes re-admissions.

NOTE: The above figures include admissions to Sunnyhill Hospital: 2 in 1979
0 in 1980
2 in 1981
4 in 1982
0 in 1983

Table 2. TOTAL ADMISSIONS[1] TO TUBERCULOSIS INSTITUTION, V.G.H., T.B.3, BY DIAGNOSIS, AGE-GROUP, AND SEX, British Columbia, 1983.

AGE-GROUP		PULMONARY - ACTIVE							OTHER MYCOBACTERIUM	OTHER PULMONARY (INACTIVE)	NON-PULMONARY T.B.[3]	NON-TUBERCULOUS	TOTALS BY SEX	GRAND TOTAL
		Primary	Minimal	Moderately Advanced	Far Advanced	Miliary[2]	Silico-T.B.	Pleurisy						
10 - 19 Years	M	-	1	-	-	-	-	-	-	-	-	-	1	2
	F	-	-	1	-	-	-	-	-	-	-	-	1	
20 - 29 Years	M	2	-	-	3	-	-	-	-	1	2	-	8	14
	F	-	-	4	-	-	-	1	-	-	1	-	6	
30 - 39 Years	M	-	1	6	5	1	-	1	-	-	-	1	15	20
	F	-	1	2	-	-	-	1	-	1	-	-	5	
40 - 49 Years	M	-	4	8	7	-	-	-	-	2	-	-	21	30
	F	-	2	2	2	-	-	-	-	1	1	1	9	
50 - 59 Years	M	-	6	7	7	-	-	1	3	2	1	-	27	28
	F	-	-	-	1	-	-	-	-	-	-	-	1	
60 - 69 Years	M	-	2	5	3	2[2]	-	3	2	1	-	1	19	25
	F	-	1	-	1	-	-	-	3	1	-	-	6	
70 Years & Over	M	-	-	6	-	2	1	-	1	1	-	2	13	22
	F	-	2	1	2	1	-	1	1	-	-	1	9	
TOTAL	M	2	14	32	25	5	1	5	6	7	3	4	104	141
	F	-	6	10	6	1	-	3	4	3	2	2	37	
GRAND TOTAL		2	20	42	31	6	1	8	10	10	5	6	141	141

[1] Includes 33 re-admissions.* See note on Table 1 re Sunnyhill Hospital.
[2] Includes 1 disseminated.
[3] Includes: 3 lymphatic
1 Bone/Joint
1 Other organs.

* (includes both active tuberculous and other diagnoses and re-admissions within the same year and from previous years)

Table 3. **TOTAL ADMISSIONS BY DIAGNOSIS, SEX AND TYPE OF ADMISSION, British Columbia, 1983**

DIAGNOSIS	FIRST ADMISSIONS		RE-ADMISSIONS		TOTAL		
	Male	Female	Male	Female	Male	Female	Total
PULMONARY ACTIVE							
Primary	1	-	1	-	2	-	2
Minimal	12	6	2	-	14	6	20
Moderately Advanced	21	10	11	-	32	10	42
Far Advanced	19	5	6	1	25	6	31
Miliary	4	1	1*	-	5	1	6
Pleurisy	3	3	2	-	5	3	8
Silico-Tuberculosis	1	-	-	-	1	-	1
OTHER MYCOBACTERIUM	5	3	1	1	6	4	10
NON-PULMONARY ACTIVE							
Other Organs	1	-	-	-	1	-	1
Bone and Joint	-	1	-	-	-	1	1
Lymphatic Glands	1	1	1	-	2	1	3
PULMONARY INACTIVE	4	-	3	3	7	3	10
NON-TUBERCULOSIS	4	2	-	-	4	2	6
TOTAL	76	32	28	5	104	37	141

* includes 1 disseminated

Table 4. **TOTAL ADMISSIONS[1] BY DIAGNOSIS, ETHNIC ORIGIN AND SEX, British Columbia, 1983.**

DIAGNOSIS	WHITE & OTHER[2]		REGISTERED INDIANS		NON-STATUS INDIANS		CHINESE		EAST INDIANS		VIET-NAMESE		TOTAL	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
PULMONARY ACTIVE														
Primary	-	-	-	-	2	-	-	-	-	-	-	-	2	-
Minimal	10	2	2	1	-	1	2	2	-	-	-	-	14	6
Moderately Advanced	17	2	8	5	1	-	4	3	1	-	1	-	32	10
Far Advanced	15	2	6	2	1	-	1	-	2	2	-	-	25	6
Miliary[3]	3	1	1	-	-	-	-	-	1*	-	-	-	5	1
Pleurisy	2	-	1	-	-	2	-	1	2	-	-	-	5	3
Silico-Tuberculosis	1	-	-	-	-	-	-	-	-	-	-	-	1	-
OTHER MYCOBACTERIUM	6	3	-	-	-	-	-	-	-	1	-	-	6	4
NON-PULMONARY ACTIVE														
Other Organs	1	-	-	-	-	-	-	-	-	-	-	-	1	-
Bone and Joint	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Lymphatic Glands	1	-	-	1	-	-	-	-	1	-	-	-	2	1
PULMONARY INACTIVE	4	1	-	2	1	-	2	-	-	-	-	-	7	3
NON-TUBERCULOSIS	3	-	-	1	-	-	1	1	-	-	-	-	4	2
TOTAL	63	11	18	12	5	3	10	8	7	3	1	-	104	37
														141

1 Includes 33 re-admissions (see definition earlier)
2 White & Other includes 1 of Japanese racial origin - Far Advanced (Male)
3 Includes 1 disseminated.

Table 5. **DISCHARGES FROM TUBERCULOSIS INSTITUTION, V.G.H., T.B.3, BY DIAGNOSIS UPON DISCHARGE, SEX AND LENGTH OF STAY. British Columbia, 1983.**

DIAGNOSIS		LENGTH OF STAY IN COMPLETED MONTHS/DAYS					TOTAL
	MOS.	Under 1	1 - 2	3 - 4	5 - 6	7-11	
	DAYS	0 - 29	30 - 89	90 - 149	150-209	210-364	
PULMONARY ACTIVE							
Minimal	M	7	5	-	-	-	12
	F	2	4	-	-	-	6
Mod. Advanced	M	13	18	3	-	1	35
	F	4	4	1	-	-	9
Far Advanced	M	8	12	6	2	1	29
	F	3	2	2	1	-	8
Miliary	M	1	2	-	-	-	3
	F	1	-	-	-	-	1
OTHER PULMONARY ACTIVE[1]	M	2	3	-	-	-	5
	F	-	3	-	-	-	3
NON-PULMONARY ACTIVE	M	1	1	1	-	-	3
	F	2	1	-	-	1	4
PULMONARY INACTIVE	M	7	-	-	-	1	8
	F	2	1	-	-	-	3
OTHER MYCOBACTERIUM	M	4	2	-	-	-	6
	F	2	1	-	-	-	3
OTHER LUNG DISEASE	M	2	1	1	-	-	4
	F	1	-	-	-	-	1
TOTAL	M	45	44	11	2	3	105
	F	17	16	3	1	1	38
GRAND TOTAL		62	60	14	3	4	143
PERCENT		43.3	42.0	9.8	2.1	2.8	100.0
DISCHARGE DEAD		6	-	1	-	1	8

[1] Includes T.B. Pleurisy and Silico-Tuberculosis.

Discharges from Sunnyhill Hospital . . . . . 2 in 1979
0 in 1980
2 in 1981
4 in 1982
0 in 1983.

Table 6. **DISCHARGES FROM TUBERCULOSIS INSTITUTION, V.G.H., T.B.3 BY TYPE OF DISCHARGE, SEX, AND LENGTH OF STAY, British Columbia, 1983**

TYPE OF DISCHARGE		LENGTH OF STAY IN COMPLETED MONTHS /DAYS					TOTAL BY SEX	GRAND TOTAL
	Mos.	Under 1	1-2	3-4	5-6	7-11		
	Days	0-29	30-89	90-149	150-209	210-364		
On Medical Advice	M	34	38	9	1	2	84	
	F	13	13	3	1	1	31	115
Against Medical Advice	M	4	4	1	1	-	10	
	F	2	3	-	-	-	5	15
Disciplinary	M	3	2	-	-	-	5	
	F	-	-	-	-	-	-	5
Death	M	4	-	1	-	1	6	
	F	2	-	-	-	-	2	8
TOTAL	M	45	44	11	2	3	105	
	F	17	16	3	1	1	38	143
GRAND TOTAL		**62**	**60**	**14**	**3**	**4**	**143**	**143**

Table 7. **PLACE OF TREATMENT OF ACTIVE TUBERCULOSIS CASES BY PRINCIPAL DIAGNOSIS, British Columbia, 1983**

DIAGNOSIS	DOMICILIARY		HOSPITAL[2]		OTHER[1]		TOTAL	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Primary	23	100.0	-	-	-	-	23	100.0
Minimal	97	80.2	20	16.5	4	3.3	121	100.0
Moderately Advanced	43	55.8	33	42.9	1	1.3	77	100.0
Far Advanced	14	31.8	27	61.4	3	6.8	44	100.0
Miliary	3	42.8	2	28.6	2	28.6	7	100.0
Silico-Tuberculosis	-	-	1	100.0	-	-	1	100.0
Other Pulmonary (incl.pleurisy)	16	69.6	6	26.1	1	4.3	23	100.0
Non-Pulmonary	63	87.5	4	5.5	5	7.0	72	100.0
TOTAL	**259**	**70.4**	**93**	**25.3**	**16**	**4.3**	**368**	**100.0**

1) Includes Ex-Province and notified on death.
2) Refers to special TB ward, Vancouver General Hospital. A number of patients had an, usually brief, admission to other general hospitals but no systematic record of these admissions is available.

Table 8. **PLACE OF TREATMENT OF ACTIVE TUBERCULOSIS CASES ACCORDING TO PRINCIPAL BACTERIOLOGICAL FINDINGS, British Columbia, 1983**

BACTERIOLOGICAL FINDINGS	DOMICILIARY		HOSPITAL		OTHER [1]		TOTAL	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
POSITIVE - Smear & culture								
Pulmonary	78	51.7	70	46.4	3	1.9	151	100.0
Non-Pulmonary	11	84.6	-	-	2	15.4	13	100.0
Pleurisy	1	50.0	1	50.0	-	-	2	100.0
POSITIVE-Culture only								
Pulmonary	56	77.8	11	15.3	5	6.9	72	100.0
Non-Pulmonary	30	88.2	2	5.9	2	5.9	34	100.0
Pleurisy	4	44.4	4	44.4	1	11.2	9	100.0
NEGATIVE								
Pulmonary	38	97.4	1	2.6	-	-	39	100.0
Non-Pulmonary	11	91.7	1	8.3	-	-	12	100.0
Pleurisy	6	75.0	2	25.0	-	-	8	100.0
NOT EXAMINED								
Pulmonary	11	91.7	-	-	1	8.3	12	100.0
Non-Pulmonary	11	84.6	1	7.7	1	7.7	13	100.0
Pleurisy	3	100.0	-	-	-	-	3	100.0
TOTAL	**259**	**70.4**	**93**	**25.3**	**16**	**4.3**	**368**	**100.0**

1) Includes Ex-Province and notified on death.

SECTION II

TREATMENT

TABLES 9 - 10

Table 9. **BRITISH COLUMBIA RESIDENTS ON CHEMOPROPHYLAXIS AS OF DECEMBER 31, 1983**

REASON FOR CHEMOPROPHYLAXIS	NUMBER	PERCENT
1. Positive tuberculin reactor with extra risk factor		
A. Contact	303	44.0
B. Convertor	58	8.0
C. Steroids	21	3.0
D. Diabetes, Sarcoid, Silicosis, etc.	21	3.0
2. Positive tuberculin reactor without extra risk factor.	179	26.0
3. Chest x-ray evidence of inactive tuberculosis.[1]	83	12.0
Miscellaneous:		
A. Localized pulmonary fibrosis	7	1.0
B. Insufficient data	21	3.0
TOTAL	693	100.0

[1] Most have positive tuberculin reaction; some have documented previous active tuberculosis.

Table 10. **PERSONS ON OUT-PATIENT DRUG THERAPY (ANTI-TUBERCULOSIS) BY HEALTH DISTRICT, AGE-GROUP AND SEX, AS AT DECEMBER 31, 1983.**

HEALTH DISTRICT	0 - 14		15 - 24		25 - 34		35 - 44		45 - 54		55 - 64		65+		Totals[1]		GRAND TOTAL
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
East Kootenay	-	-	1	-	-	-	1	-	-	-	-	-	-	-	2	-	2
Selkirk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
West Kootenay	-	-	-	-	-	-	-	-	-	-	-	-	4	-	4	-	4
North Okanagan	-	-	-	-	-	-	1	-	-	2	-	-	-	-	1	2	3
South Okanagan	3	2	-	-	-	-	1	-	3	-	1	2	3	1	11	5	16
South Central	-	1	1	-	-	-	-	-	-	-	-	1	-	-	1	2	3
Upper Fraser	-	-	1	-	1	-	1	1	1	-	1	-	1	1	6	2	8
Central Fraser	2	-	1	1	1	-	-	-	-	-	-	-	4	1	8	2	10
Boundary	-	1	2	1	4	2	2	-	2	1	7	2	2	4	19	11	30
Simon Fraser	-	1	-	-	-	-	1	2	-	-	4	1	1	1	6	5	11
Coast-Garibaldi	-	-	-	-	-	-	-	-	1	-	1	-	-	-	2	-	2
Central Vancouver Island	-	-	1	2	-	1	4	2	-	1	1	1	3	1	9	8	17
Upper Island	1	1	1	1	1	2	-	-	2	-	-	-	-	1	5	5	10
Cariboo	-	-	3	-	1	1	1	2	3	1	-	-	1	2	9	6	15
Skeena	1	2	-	1	-	1	3	4	-	2	3	-	1	1	8	11	19
Peace River	1	1	-	-	2	1	-	-	1	1	1	-	2	-	7	3	10
Northern Interior	2	1	3	3	2	-	1	1	3	2	2	-	1	-	14	7	21
Metropolitan Board of Health of Greater Vancouver	8	9	5	12	13	11	18	20	22	6	26	10	24	13	119	81	200
Capital Regional District Community Health Service	-	1	-	-	1	1	1	2	1	1	1	-	6	6	10	11	21
Unallocated																	
TOTAL	**18**	**20**	**19**	**21**	**26**	**20**	**35**	**34**	**39**	**17**	**48**	**17**	**53**	**32**	**236**	**161**	**399**

[1] Includes 55 Registered Indians.

NOTE: An additional 19 persons were receiving antimicrobial drug therapy for mycobacteria other than tuberculosis.

NOTE: This table does not include persons on chemoprophylaxis.

SECTION III

DIAGNOSTIC & SURVEY CLINICS

Tables 11 - 13

Table 11.

DIAGNOSTIC SERVICES PROVIDED BY TUBERCULOSIS CONTROL
British Columbia, 1983

	WILLOW CHEST CLINIC			NEW WESTMINSTER CHEST CLINIC			VICTORIA & ISLAND CHEST CLINIC			TRAV. CLINIC	TOTAL
	DIAGNOSTIC	SURVEY	MOBILE	DIAGNOSTIC	SURVEY	FVTC	DIAGNOSTIC	SURVEY	ISL. TRAV.		
PATIENTS/CLIENTS, PATIENT VISITS[1]	8963	13192	-	3442	6357	269	2498	3959	789[2]	264	35774
PATIENTS REFERRED FOR X-RAY EXAMINATION WITHIN DIVISION:											
1st.....	885	2495	-	570	1112	-	211	1559	-	-	6932
Repeat	5455	1909	-	1488	401	-	1892	2400	-	-	13545
Sub-Total.....	6340	4404	-	2058	1513	-	2103	3959	-	-	20377
X-Rays Taken	7607	4404	1621	2277	1513	-	2472	3959	-	-	24325
Outside X-Ray Examinations	730	-	642	347	-	2652	-	-	2526	4697[3]	10952
Physicians Interviews	8208	-	-	1246	-	269	2627	-	789	264	13403
Consultant Services	2	-	-	145	-	-	54	-	-	-	201
Nursing Interviews	8889	8595	-	560	2592	-	4711	-	-	-	25347
Tuberculin Test Given	510	6217	-	429	2443	-	2736	-	-	-	12335
Sputum Bottles Given	6727[4]	-	-	928	-	-	442	-	-	-	8097

1
2 Actual attendances by patients (not merely a referred chest x-ray).
I.T.C. (V.I.C.C.) numbers decreased from previous years because of removal from this entry of x-rays
3 referred in for reading.
4 Includes 450 films received from private radiologists and Immigration for interpretation by the Division.
Includes 37 gastric washings.

Table 12.

SURVEY CHEST X-RAY ABNORMAL TUBERCULOSIS CONTROL

CLINICS	TOTAL X-RAYED	NEW ABNORMALITIES (VARIOUS)	NEW TUBERCULOSIS CASES					
			TOTAL	PULMONARY[1]			NON-PULM.	
			NEW TUBERCULOSIS CASES	ACTIVE	PRESUMED T.B. INACTIVE	INACTIVE	ACTIVE	INACTIVE
Willow Chest Centre	4404	161	43	6	37	-	-	-
Victoria & Island Chest Clinic	3959	6	-	-	-	-	-	-
New Westminster Chest Clinic	1513	8	-	-	-	-	-	-
Mobile Surveys	1626	351	38	4	29	5	-	-
Referrals[2]	642	19	1	-	1	-	-	-
TOTAL	12144	545	82	10	67	5	-	-
RATES PER 100,000		4487	680	83	556	41	-	-

[1] Includes pleurisy.
[2] Large x-rays received from hospitals for reading by Mobile Clinics.
* Includes one quiescent case.

SERVICES BY CLINIC AND CONDITION DETECTED. BRITISH COLUMBIA, 1983

KNOWN TUBERCULOSIS CASES						NON-TUBERCULOUS CONDITIONS					
TOTAL	PULMONARY			NON-PULMONARY							
KNOWN TUBERCULOSIS CASES	ACTIVE	PRESUMED T.B. INACTIVE	INACTIVE	ACTIVE	INACTIVE	OTHER	NEGATIVE (AFTER REVIEW)	PLEURISY	CARDIAC	CALCIFICATION & HEALED PRIMARY COMPLEX	PROPHYLAXIS STARTED
7	-	1	6	-	-	71	79	8	2	37	8
1	-	-	1	-	-	4	8	1	1	-	-
-	-	-	-	-	-	8	7	-	-	-	-
58	7	14	36*	-	1	173	25	39	44	57	-
5	-	1	3	-	1	8	5	5	1	4	2
71	7	16	46	-	1	264	124	53	48	98	10

Table 13.

NUMBER OF PERSONS VACCINATED WITH B.C.G.
British Columbia, 1982 & 1983.

GROUPS TO WHOM B.C.G.VACCINATIONS WERE GIVEN	WILLOW CHEST CLINIC		VICTORIA & ISLAND CHEST CLINIC		NEW WESTMINSTER STATIONARY CLINIC		HEALTH[1] UNITS		PACIFIC REGION HEALTH SERVICES		B.C.I.T.		T O T A L	
	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983
OCCUPATIONAL GROUPS														
Nurses	1	-	-	-	2	-	1	1	-	-	102	-	106	1
Students	-	1	-	-	-	1	-	-	-	-	-	59	-	61
Other Hospital Personnel	1	3	-	-	-	1	-	1	-	-	-	-	1	5
Medical Students	1	5	-	-	-	-	1	-	-	-	-	-	2	5
NATIVE INDIANS (REGISTERED)														
Newborn	-	-	-	-	-	-	28	32	430[2]	304[3]	-	-	458	336
Children & Adults	-	-	-	-	-	-	13	1	100	274	-	-	113	275
ALL OTHER PERSONS														
Newborn (Contacts)	-	-	-	-	1	-	2	-	-	-	-	-	3	-
Newborn (Not Contacts)	1	-	-	-	1	-	-	1	-	-	-	-	2	1
Children & Adults (Contacts)	18	3	-	-	1	-	-	-	-	-	-	-	19	3
Children & Adults (Not Contacts)	10	18	-	-	11	10	8	2	-	-	-	-	29	30
TOTAL	32	30	-	-	16	12	53	38	530	578	102	59	733	717

[1] Given by Provincial Health Units

[2] In 1982, 622 Native Indians (Registered and on reserve) were born and, of these, 342 (55%) received B.C.G. vaccine (DATA courtesy of Medical Services, Pacific Region).

[3] In 1983, 601 Native Indians (Registered and on reserve) were born and, of these, 304 (51%) received B.C.G. vaccine (DATA courtesy of Medical Services, Pacific Region).

SECTION IV

ACTIVE TUBERCULOSIS

TABLES 14 - 29

Table 14. INCIDENCE OF ACTIVE TUBERCULOSIS BY AGE-GROUP AND SEX, British Columbia, 1983

YEAR	MALES				FEMALES				TOTAL			
	BACILLARY CASES		ALL ACTIVE CASES		BACILLARY CASES		ALL ACTIVE CASES		BACILLARY CASES		ALL ACTIVE CASES	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0 - 14	7	0.4	11	0.7	5	0.3	15	1.0	12	0.4	26	0.9
15 - 24	11	0.7	17	1.2	9	0.6	14	0.9	20	0.7	31	1.0
25 - 34	22	1.5	32	2.2	14	0.9	21	1.4	36	1.2	53	1.8
35 - 44	27	1.9	35	2.4	11	0.7	16	1.1	38	1.3	51	1.8
45 - 54	37	2.6	42	2.9	17	1.1	20	1.4	54	1.9	62	2.1
55 - 64	39	2.7	44	3.1	18	1.2	21	1.4	57	2.0	65	2.3
65 - 74	27	1.9	33	2.3	9	0.6	11	0.7	35	1.2	44	1.5
75 & Over	18	1.1	21	1.4	13	0.9	15	1.0	29	1.0	36	1.2
TOTAL	**186**	**13.2**	**235**	**16.7**	**96**	**6.7**	**133**	**9.3**	**282**	**9.9**	**368**	**13.0**

Rates per 100,000 population.

Table 15.

ACTIVE TUBERCULOSIS FOR ALL CASES AND BACILLARY ONLY, British Columbia, 1977 - 1983

YEAR	MALES				FEMALES				TOTAL			
	BACILLARY CASES		ALL ACTIVE CASES		BACILLARY CASES		ALL ACTIVE CASES		BACILLARY CASES		ALL ACTIVE CASES	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1977	165	13.3	196	15.7	123	9.9	172	13.8	288	11.6	368	14.8
1978	205	16.5	253	20.3	113	9.0	157	12.5	318	12.7	410	16.4
1979	139	14.0	235	18.4	97	7.0	150	11.6	270	10.5	385	15.0
1980	193	14.7	252	19.2	94	7.2	146	11.0	287	10.9	398	15.1
1981	167	12.7	210	15.8	120	9.0	168	12.7	287	10.9	378	14.3
1982	165	12.1	231	16.9	118	8.6	187	13.6	283	10.3	418	15.2
1983	186	13.2	235	16.7	96	6.7	133	9.3	282	9.9	368	13.0

Rates per 100,000 population.

Table 16.

ACTIVE TUBERCULOSIS
AGENCY PROVIDING INITIAL INVESTIGATION (USUALLY X-RAY) LEADING TO THE DIAGNOSIS.
British Columbia, 1983

SOURCE	1982	1983
UNITS OF THE DIVISION:		
Willow Chest Centre:		
Survey Clinic	10	6
Diagnostic Clinic	54	34
New Westminster Chest Centre:		
Survey Clinic	-	-
Diagnostic Clinic	12	7
Victoria & Island Chest Centre:		
Survey Clinic	-	-
Diagnostic Clinic	7	1
Travelling Clinic	16	19
(Verification by Travelling Clinic)	-	11
Mobile Clinic	1	4
TOTAL	100	82
Percent	24	22
INDIAN HEALTH SERVICES:		
Indian Health Services	4	2
Indian Mobile (Survey)	5	4
TOTAL	9	6
Percent	2	2
OTHER:		
Private Radiologist	56	41
Private Physicians Office	6	7
Mental Health Services	-	1
Ex-Province (including Immigration)	5	11
Provincial Jails (LMRCC & Prince George)	2	1
TOTAL	69	61
Percent	17	17
GENERAL HOSPITALS:		
Survey Admission Chest X-Ray	-	-
Diagnostic Film: Out-patient	60	67
" " : In-patient	85	89
Diagnosed in hospital on basis other than x-ray	58	35
Day care (basis other than x-ray)	23	14
TOTAL	226	205
Percent	54	55
NOTIFIED ON DEATH:		
Notified on death	10	10
Notified on death; T.B. diagnosed during life	4	4
TOTAL	14	14
Percent	3	4
GRAND TOTAL	418	368
PERCENT	100	100

Table 17A. **PRINCIPAL DIAGNOSIS OF ACTIVE TUBERCULOSIS AND BACILLARY CASES, British Columbia, 1983**

DIAGNOSIS	BACILLARY ONLY		ALL ACTIVE CASES		BACILLARY AS PERCENT OF ALL ACTIVE CASES
	Number	Percent	Number	Percent	
PULMONARY:					
Primary	7	2.8	23	6.5	30.4
Minimal	95	33.4	121	32.9	77.7
Moderately Advanced	73	25.6	77	20.7	94.7
Far advanced	44	15.3	44	11.7	100.0
Miliary	3	1.1	7	1.9	42.9
Silico-Tuberculosis	1	0.4	1	0.3	100.0
Pleurisy	11	3.9	22	5.7	52.4
Tuberculoma	1	0.4	1	0.3	100.0
NON-PULMONARY:					
Meninges and Central Nervous System	-	-	1	0.5	-
Intestines and Peritoneum	2	0.7	3	0.8	66.7
Bones and Joints	7	2.5	9	2.4	77.8
Skin and Subcutaneous Cell Tissue	1	0.4	4	1.1	25.0
Lymphatic System	24	8.5	35	9.8	68.6
Genito-Urinary System	11	3.9	13	3.5	84.6
Multiple Sites and Other Organs	2	0.7	7	1.9	28.6
TOTAL	282	100.0	368	100.0	76.4

Table 17B. **PRINCIPAL DIAGNOSIS OF ACTIVE TUBERCULOSIS AND BACILLARY CASES, British Columbia, 1982**

DIAGNOSIS	BACILLARY ONLY		ALL ACTIVE CASES		BACILLARY AS PERCENT OF ALL ACTIVE CASES
	Number	Percent	Number	Percent	
PULMONARY:					
Primary	4	1.4	37	8.8	10.8
Minimal	96	34.0	131	31.3	72.5
Moderately Advanced	67	23.7	71	17.0	91.6
Far Advanced	45	15.9	47	11.2	95.7
Miliary	12	4.2	15	3.6	80.0
Tuberculoma	-	-	2	0.5	-
Pleurisy	8	2.8	21	5.0	38.1
NON-PULMONARY:					
Meninges and Central Nervous System	4	1.4	4	1.0	100.0
Intestines and Peritoneum	4	1.4	5	1.2	80.0
Bones and Joints	4	1.4	5	1.2	80.0
Skin and Subcutaneous Cell Tissue	2	0.7	6	1.4	33.3
Lymphatic System	28	9.9	55	13.2	51.0
Genito-Urinary System	7	2.8	15	3.6	46.7
Multiple Sites and Other Organs	2	0.7	4	1.0	50.0
TOTAL	**283**	**100.0**	**418**	**100.0**	**67.7**

Table 18A. **PRINCIPAL DIAGNOSIS OF ACTIVE TUBERCULOSIS, AMONG NON-INDIANS AND INDIANS, British Columbia, 1983**

DIAGNOSIS	NON-INDIANS[1]		REGISTERED INDIANS	
	Number	Percent	Number	Percent
PULMONARY:				
Primary	18	5.7	5	10.0
Minimal	111	34.9	10	20.0
Moderately Advanced	63	19.8	14	28.0
Far Advanced	36	11.3	8	16.0
Miliary	5	1.6	2	4.0
Silico-Tuberculosis	1	0.3	-	-
Pleurisy	19	6.0	3	6.0
Tuberculoma	1	0.3	-	-
NON-PULMONARY:				
Meninges and Central Nervous System	-	-	1	2.0
Intestines and Peritoneum	3	0.9	-	-
Bones & Joints	9	2.8	-	-
Skin and Subcutaneous Cell Tissue	3	0.9	1	2.0
Lymphatic System	31	9.8	4	8.0
Genito-Urinary System	11	3.5	2	4.0
Multiple Sites and Other Organs	7	2.2	-	-
TOTAL	**318**	**100.0**	**50**	**100.0**

[1] Includes 26 non-status Indians.

Table 18B. **PRINCIPAL DIAGNOSIS OF ACTIVE TUBERCULOSIS, AMONG NON-INDIANS AND INDIANS, British Columbia, 1982**

DIAGNOSIS	NON-INDIANS[1]		REGISTERED INDIANS	
	Number	Percent	Number	Percent
PULMONARY:				
Primary	34	9.1	3	7.0
Minimal	114	30.4	17	39.5
Moderately Advanced	62	16.5	9	21.0
Far Advanced	43	11.5	4	9.3
Miliary	12	3.2	3	7.0
Tuberculoma	2	0.5	-	-
Pleurisy	20	5.4	1	2.3
NON-PULMONARY:				
Meninges and Central Nervous System	3	0.8	1	2.3
Intestines and Peritoneum	5	1.3	-	-
Bones and Joints	5	1.3	-	-
Skin and Subcutaneous Cell Tissue	5	1.3	1	2.3
Lymphatic System	51	13.6	4	9.3
Genito-urinary System	15	4.0	-	-
Multiple Sites and Other Organs	4	1.1	-	-
TOTAL	375	100.0	43	100.0

[1] Includes 22 non-status Indians.

Table 19. ACTIVE[1] TUBERCULOSIS, BY AGE GROUP, SEX & DIAGNOSIS, (Bacillary Only) British Columbia, 1983

DIAGNOSIS ON NOTIFICATION		AGE GROUP							TOTAL
		0–14	15–24	25–34	35–44	45–54	55–64	65+	
PULMONARY:									
Primary	M	5	–	–	–	–	–		5
	F	2	–	–	–	–	–		2
Minimal	M	–	5	10	8	10	13	20	66
	F	–	–	4	3	6	5	11	29
Moderately Advanced	M	–	5	1	7	11	9	16	49
	F	2	5	5	1	3	3	5	24
Far Advanced	M	–	1	4	6	9	11	3	34
	F	1	1	–	1	–	4	3	10
Miliary	M	1	–	–	–	–	–	1	2
	F	–	–	–	–	–	–	1	1
Silico-Tuberculosis	M	–	–	–	–	–	–	1	1
	F	–	–	–	–	–	–	–	–
Pleurisy	M	–	–	2	–	1	2	–	5
	F	–	1	–	4	–	1	–	6
Tuberculoma	M	–	–	–	–	–	–	–	–
	F	–	–	–	1	–	–	–	1
TOTAL PULMONARY	M	6	11	17	21	31	35	41	162
	F	5	7	9	10	9	13	20	73
	T	11	18	26	31	40	48	61	235
NON-PULMONARY:									
Heninges & Central Nervous System	M	–	–	–	–	–	–	–	–
	F	–	–	–	–	–	–	–	–
Intestines & Peritoneum	M	–	–	–	1	–	–	1	2
	F	–	–	–	–	–	–	–	–
Bones & Joints	M	–	–	1	1	1	–	1	4
	F	–	–	1	–	–	1	1	3
Skin	M	–	–	–	–	–	1	–	1
	F	–	–	–	–	–	–	–	–
Lymphatic System	M	1	–	2	3	2	2	–	10
	F	–	2	3	1	4	3	1	14
Genito-Urinary	M	–	–	1	1	3	–	–	5
	F	–	–	1	–	4	1	–	6
Multiple Sites & Other Organs	M	–	–	1	–	–	1	–	2
	F	–	–	–	–	–	–	–	–
TOTAL NON-PULMONARY	M	1	–	5	6	6	4	2	24
	F	–	2	5	1	8	5	2	23
	T	1	2	10	7	14	9	4	47
TOTAL NOTIFICATIONS	M	7	11	22	27	37	39	43	186
	F	5	9	14	11	17	18	22	96
	T	12	20	36	38	54	57	65	282

[1] Includes active and reactivated cases.

Table 20. **ACTIVE[1] TUBERCULOSIS, BY AGE GROUP, SEX & DIAGNOSIS, (All Active Cases) British Columbia, 1983**

DIAGNOSIS ON NOTIFICATION		AGE GROUP							TOTAL
		0-14	15-24	25-34	35-44	45-54	55-64	65+	
PULMONARY:									
Primary	M	9	1	-	-	-	-	-	10
	F	11	2	-	-	-	-	-	13
Minimal	M	-	7	15	11	13	16	23	85
	F	-	-	6	4	7	7	12	36
Moderately Advanced	M	-	6	3	7	11	10	16	53
	F	2	5	5	1	3	3	5	24
Far Advanced	M	-	1	4	6	9	11	3	34
	F	1	1	-	1	-	4	3	10
Miliary	M	1	-	-	1	-	1	2	5
	F	-	-	-	-	1	-	1	2
Silico-Tuberculosis	M	-	-	-	-	-	-	1	1
	F	-	-	-	-	-	-	-	-
Pleurisy	M	-	-	2	1	2	2	4	11
	F	-	4	-	5	-	1	1	11
Tuberculoma	M	-	-	-	-	-	-	-	-
	F	-	-	-	1	-	-	-	1
TOTAL PULMONARY	M	10	15	24	26	35	40	49	199
	F	14	12	11	12	11	15	22	97
	T	24	27	35	38	46	55	71	296
NON-PULMONARY:									
Meninges & Central Nervous System	M	-	-	1	-	-	-	-	1
	F	-	-	-	-	-	-	-	-
Intestines & Peritoneum	M	-	-	-	1	-	-	2	3
	F	-	-	-	-	-	-	-	-
Bones & Joints	M	-	-	1	1	1	-	1	4
	F	-	-	2	-	-	1	2	5
Skin	M	-	-	1	-	-	1	-	2
	F	-	-	1	1	-	-	-	2
Lymphatic System	M	1	1	3	4	3	2	2	16
	F	1	3	5	2	4	3	1	19
Genito-Urinary System	M	-	-	1	1	3	-	-	5
	F	-	-	1	1	4	1	1	8
Multiple Sites	M	-	-	1	2	-	1	-	4
	F	-	-	1	-	1	1	-	3
TOTAL NON-PULMONARY	M	1	1	8	9	7	4	5	35
	F	1	3	10	4	9	6	4	37
	T	2	4	18	13	16	10	9	72
TOTAL NOTIFICATIONS	M	11	16	32	35	42	44	54	234
	F	15	15	21	16	20	21	26	134
	T	26	31	53	51	62	65	80	368

[1] Includes active and reactivated cases.

Table 21. **ACTIVE TUBERCULOSIS[1] BY HEALTH DISTRICT OF RESIDENCE, FOR BACILLARY CASES AND ALL ACTIVE CASES. British Columbia, 1983**

HEALTH DISTRICT	BACILLARY ONLY	ALL ACTIVE CASES	
		TOTAL POPULATION	OTHER THAN[2] INDIAN
	Number	Number	Number
East Kootenay	1	1	1
Central Kootenay	2	2	2
North Okanagan	3	3	2
South Okanagan	11	12	11
South Central	3	3	3
Upper Fraser Valley	7	9	9
Central Fraser Valley	8	11	11
Boundary	16	26	25
Simon Fraser	13	17	16
Coast-Garibaldi	2	3	2
Central Vancouver Island	4	9	8
Upper Island	6	10	6
Cariboo	9	11	8
Skeena	13	16	8
Peace River	9	10	7
Northern Interior	17	18	9
Metropolitan Board of Health of Greater Vancouver	146	191	174
Vancouver City	*	163	**
Burnaby	*	11	**
North/West Vancouver	*	7	**
Richmond	*	10	**
Capital Regional District Community Health Services	11	16	16
Ex-Province	1	1	1
TOTAL	282	368	318

1
2 Includes active and reactivated cases.
Includes 26 non-status Indians.
*/** Figures not broken down.

Table 22. **BACTERIOLOGICAL STATUS OF ACTIVE CASES OF PULMONARY TUBERCULOSIS British Columbia, 1983**

	EXAMINED			Not Examined	TOTAL
	Positive Smear	Positive Culture Only	Negative		
TOTAL MALES AND FEMALES					
Number of Cases	153	81	47	15	296
Percent	51.7	27.4	15.9	5.8	100.0
MALES					
Number of Cases	108	52	32	7	199
Percent	54.0	26.0	16.0	4.0	100.0
FEMALES					
Number of Cases	45	29	15	8	97
Percent	46.4	29.8	15.4	8.4	100.0

[1] Includes all types of specimen - sputum, biopsy, gastric lavage, pleural fluid, etc.

NOTE: In 228 persons, sputum was the initial specimen and in a further 20 persons, originally diagnosed by other types of specimen, sputum was subsequently produced and examined. Thus, at least 248/296 or 84% of those with active pulmonary tuberculosis were able to produce sputum.

Table 23. **ACTIVE TUBERCULOSIS ARISING IN PERSONS IN VARIOUS DIAGNOSTIC CATEGORIES ROUTINELY FOLLOWED UP BY TUBERCULOSIS CONTROL CLINICS.**

DIAGNOSIS		NUMBER OF CASES	PERCENT
REACTIVATION I			
Inactive Tuberculosis (previously documented active episode(s)		55	15.0
REACTIVATION II			
Presumed Tuberculosis Inactive		19	5.2
PRE-EXISTING CHEST X-RAY ABNORMALITY - OTHER			
Pulmonary Fibrosis (Localized and Diffuse)		10	2.7
Old Pleurisy & Other Pleural Changes		3	0.8
Healed Primary Complex		11	3.0
Hilar Calcification		1	0.3
Bronchovascular changes		2	0.5
Solitary Lung Densities		1	0.3
Other Conditions		3	0.8
		31	8.4
	Sub-total	105	29.0
NO KNOWN PRE-EXISTING CHEST X-RAY ABNORMALITY			
Negative X-ray		75	20.4
X-Rays Not Taken or Available		188	51.0
	Sub-Total	263	71.4
TOTAL CASES		368	100.0

Table 24A. **INCIDENCE OF ACTIVE[1] TUBERCULOSIS BY ETHNIC ORIGIN, British Columbia, 1983**

ETHNIC ORIGIN	BACTERIOLOGICALLY CONFIRMED CASES		TOTAL ACTIVE TUBERCULOSIS	
	Number of Cases	Rate[2]	Number of Cases	Rate[2]
White and Others	134	5.2	172	7.0
Indian (Registered)	42	71.9	50	85.6
Indian (Non-Status)	23	-	26	-
Chinese	52	90.0	65	112.0
Japanese - Korean	1	12.0	3	35.0
East Indian	20	55.3	32	89.0
Vietnamese	6	94.0	12	188.0
Filipino	4	33.0	8	66.3
TOTAL	**282**		**368**	

1 Includes active and reactivated cases.
2 Rates per 100,000 population based on estimated population only from 1981 Canada Census.

Table 24B. **INCIDENCE OF ACTIVE[1] TUBERCULOSIS AMONG CANADIAN BORN AND FOREIGN-BORN, British Columbia, 1983**

	BACTERIOLOGICALLY CONFIRMED CASES		TOTAL ACTIVE TUBERCULOSIS	
	Number of Cases	Rate[2]	Number of Cases	Rate[2]
Canadian Born	149	7.1	188	8.9
Foreign-Born	133	21.0	180	28.5
Canadian Citizen	51		70	
Landed Immigrant	65		92	
Ministers Permit (Non-landed Immigrants)	1		1	
Visitors (Sailors, etc.)	4		4	
Student Visas	1		1	
Not known	11		12	

[1] Includes active and reactivated cases.

[2] Rates per 100,000 population based on estimated population only from 1981 Census. (Born in Canada: 2,112,847; born outside Canada: 631,620 (or 23.01%). Total B.C. population, 1981: 2,744,467).

Table 25. CONTRIBUTION OF REACTIVATIONS TO TOTAL ACTIVE TUBERCULOSIS CASES BY AGE GROUP
British Columbia, 1983

TYPE OF CASE	Age-Group				TOTAL
	0-24	25-44	45-64	65+	
ALL ACTIVE CASES					
TOTAL Number of Cases	57	104	128	79	368
Number of Reactivations I	1	16	22	16	55
Percent of Reactivations I	1.8	17.0	17.2	20.3	14.9
Number of Reactivations II	-	4	9	6	19
Percent of Reactivations II	-	3.8	7.0	7.6	5.1
TOTAL REACTIVATIONS					74
BACTERIOLOGICALLY CONFIRMED CASES ONLY					
TOTAL Number of Cases	32	74	111	65	282
Number of Reactivations I	1	9	15	13	38
Percent of Reactivations I	3.1	12.2	13.5	20.0	13.5
Number of Reactivations II	-	2	8	6	16
Percent of Reactivations II	-	2.7	7.2	9.2	5.7
TOTAL REACTIVATIONS					54

Reactivations I: Derived from Inactive Tuberculosis Cases (previously documented active).

Reactivations II: Derived from Presumed Pulmonary Tuberculosis, Inactive (not previously documented active tuberculosis cases).

Table 26.

TOTAL ACTIVE CASES OF TUBERCULOSIS
(NEW ACTIVE AND REACTIVATED* CASES)
RATES PER 100,000 AGE-SPECIFIC (ESTIMATED) POPULATION
British Columbia, 1974–1983

AGE-GROUP	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
0 - 14 Years	4.2	3.7	4.5	2.7	6.6	7.2	4.9	4.3	6.8	4.4
15 - 24 Years	11.7	8.6	9.0	7.0	10.3	7.1	8.7	8.1	9.8	6.5
25 - 34 Years	23.8	19.5	15.4	14.7	14.3	13.6	12.5	14.0	14.7	10.6
35 - 44 Years	30.3	22.9	21.3	22.5	18.6	20.1	18.0	18.0	15.2	13.4
45 - 54 Years	25.6	31.0	17.9	24.2	21.9	20.4	19.9	19.5	17.5	21.8
55 - 64 Years	32.2	28.4	29.4	21.7	25.3	21.6	22.0	22.4	24.5	24.3
65 - 74 Years	33.9	41.0	29.8	35.1	32.3	27.5	28.5	32.5	28.4	22.3
75 Years & Over	41.1	40.2	41.4	32.0	45.3	35.9	51.5	25.3	36.7	29.6

* Includes Reactivations I: Derived from Inactive Tuberculosis Cases (previously documented active) and Reactivations II: Derived from Presumed Pulmonary Tuberculosis Inactive (not previously documented active tuberculosis cases).

Table 27. NEW ACTIVE AND REACTIVATED* TUBERCULOSIS CASES AMONG ALL RACES, EXCLUDING REGISTERED INDIANS, British Columbia, 1978 - 1983

AGE-GROUP	1978		1979		1980		1981		1982		1983	
	New Active	Reacti-vation	New Active	Reacti-vation	New Active	Reacti-vation	New Active	Reacti vation	New Active	Reacti-vation	New Active	Reacti-vation
0 - 14	19	-	32	-	23	-	18	1	36	-	18	-
15 - 24	29	-	27	2	38	2	33	-	44	2	27	-
25 - 44	75	3	89	9	83	8	96	5	94	11	69	17
45 - 54	38	5	34	10	38	8	37	6	33	6	46	10
55 - 64	41	13	37	7	36	10	36	12	48	12	38	17
65 & Over	56	23	64	9	76	21	62	15	62	27	55	21
TOTAL	258	50	283	37	294	49	282	39	317	58	253	65

* Includes Reactivations I: Derived from Inactive Tuberculosis Cases (previously documented active), and Reactivations II: Derived from Presumed Pulmonary Tuberculosis Inactive (not previously documented active tuberculosis cases).

Table 28. NEW ACTIVE AND REACTIVATED* TUBERCULOSIS CASES AMONG REGISTERED INDIANS, British Columbia, 1978 - 1983.

AGE-GROUP	1978		1979		1980		1981		1982		1983	
	New Active	Reacti-vation	New Active	Reacti-vation	New Active	Reacti-vation	New Active	Reacti-vation	New Active	Reacti-vation	New Active	Reacti-vation
0 - 14	16	-	9	-	5	-	6	-	4	-	8	-
15 - 24	17	-	5	-	3	-	7	-	2	-	3	1
25 - 44	20	6	13	9	15	8	15	5	12	7	15	3
45 - 54	7	5	5	7	7	1	6	4	5	5	5	1
55 - 64	1	4	6	2	4	4	5	2	3	-	7	3
65 & Over	14	-	6	3	5	3	5	2	4	1	3	1
TOTAL	75	15	44	21	39	16	44	13	30	13	41	9

* Includes Reactivations I: Derived from Inactive Tuberculosis Cases (previously documented active), and Reactivations II: Derived from Presumed Pulmonary Tuberculosis Inactive (not previously documented active tuberculosis cases).

Table 29. ACTIVE TUBERCULOSIS SHOWING MAJOR OCCUPATION GROUPS AND BACTERIOLOGICAL STATUS, British Columbia, 1983.

OCCUPATION	Smear Positive	Culture Positive	Negative	No Bacteriology Done	TOTAL
Managerial Occupations	4	6	4	5	19
Professional/Technical	7	4	5	-	16
Clerical	8	4	2	2	16
Sales	2	3	1	-	6
Service & Recreation	11	5	6	2	24
Transport & Communications	3	2	1	3	9
Fishing/Trapping	2	-	-	-	2
Farmers & Farm Workers	1	3	-	-	4
Craftsmen, Production Process wkrs.	12	9	-	1	22
Laborers	6	3	2	2	13
Pensioners/Invalids	2	1	-	-	3
Retired	37	22	13	2	74
Students	9	6	11	4	30
Unemployed	48	20	6	3	77
Housewife (At Home)	12	26	7	3	48
Occupation not given	2	1	1	1	5
TOTAL	166	115	59	28	368

SECTION V

CONTACT TRACING

Tables 30 - 34

Table 30.

CONTACT INVESTIGATION - MORBIDITY

BY AGE AND INITIAL TUBERCULIN STATUS OF CONTACTS AND BACILLARY STATUS OF SOURCE.
TYPE OF SOURCE: PULMONARY TUBERCULOSIS, ACTIVE, (DIAGNOSED IN 1983).
TYPE OF CONTACT: HOUSEHOLD, UNDER AND OVER 20 YEARS (DIAGNOSED IN 1983).
British Columbia, 1983.

SOURCE BACTERIOLOGY	UNDER 20			20&OVER			TOTAL		
	Total Contacts	Number Active	Morbidity Percent	Total Contacts	Number Active	Morbidity Percent	Total Contacts	Number Active	Morbidity Percent
Positive Smear & Culture									
All Contacts	106	15	14.1	135	8	5.9	241	23	9.5
Tuberculin Positive Contacts[2]	45 (42%)	15	33.3	54 (40%)	8	14.8	99	23	23.2
Positive Culture Only									
All Contacts	46	-	-	41	-	-	87	-	-
Tuberculin Positive Contacts[2]	7 (15%)	-	-	20 (49%)	-	-	27	-	-
Negative Smear & Culture									
All Contacts	13	-	-	10	-	-	23	-	-
Tuberculin Positive Contacts[2]	2 (15%)	-	-	3 (30%)	-	-	5	-	-
Not Examined									
All Contacts	5	-	-	2	-	-	7	-	-
Tuberculin Positive Contacts	-	-	-	2	-	-	2	-	-

[1] This table excludes contacts whose age was not given.
[2] Positive tuberculin includes those with 10 mm.or greater.

Table 31.

CONTACT INVESTIGATION - MORBIDITY

BY AGE OF CONTACTS AND PROXIMITY OF CONTACT
TYPE OF SOURCE: PULMONARY TUBERCULOSIS, ACTIVE, (DIAGNOSED IN 1983),
TYPE OF CONTACT: HOUSEHOLD AND NON-HOUSEHOLD, (DIAGNOSED IN 1983).
British Columbia, 1983.

AGE-GROUP	CONTACTS			NUMBER ACTIVE TB FOUND			PERCENT WITH ACTIVE T.B.		
	Household	Non-Household	Total	Household	Non-Household	Total	Household	Non-Household	Total
Pulmonary Source Cases									
0 - 14 Years	81	148	229	13	3	16	16.0	2.0	7.0
15 - 19 Years	84	251	335	2	1	3	7.9	0.4	0.9
20 - 29 Years	62	284	346	5	1	6	8.0	0.3	1.7
30 - 39 Years	35	213	248	1	1	2	2.8	0.5	0.8
40 Years & Over	89	407	496	2	2	4	2.2	0.5	0.8
TOTAL	351	1303	1654	23	8	31	6.0	0.6	1.9

NOTE: Excludes source cases not bacteriologically examined and contacts whose age was not given.

Table 32.

CONTACT INVESTIGATION - MORBIDITY

BY INITIAL TUBERCULIN STATUS OF CONTACTS, PROXIMITY OF CONTACT AND BACILLARY STATUS OF SOURCE.
TYPE OF SOURCE: PULMONARY TUBERCULOSIS, ACTIVE, (DIAGNOSED IN 1983).
TYPE OF CONTACT: HOUSEHOLD AND NON-HOUSEHOLD, (DIAGNOSED IN 1983).
British Columbia, 1983.

SOURCE	NUMBER OF CONTACTS LISTED				NUMBER ACTIVE TUBERCULOSIS FOUND				PERCENT WITH ACTIVE TUBERCULOSIS		
	Household		Non-Household		Household		Non-Household				
	Tbn. Pos.[1]	Tbn. Neg. or Not Done	Tbn. Pos.[1]	Tbn. Neg. or Not Done	Tbn. Pos.[1]	Tbn. Neg. or Not Done	Tbn. Pos.[1]	Tbn. Neg. or Not Done	House-hold	Non-House-	TOTAL
Positive Smear	133	225	408	923	23	-	6	2	6.4	0.6	1.8
Total	99	142	343	719	23	-	4	2	9.5	0.6	2.2
Positive Culture Only[2]											
Total	27	60	52	139	-	-	2	-	-	1.0	1.0
Negative Bacteriology											
Total	5	18	9	41	-	-	-	-	-	-	-
Not Examined											
Total	2	5	4	24	-	-	-	-	-	-	-

[1] Includes persons with a reaction of 10 mm.or greater.
[2] Includes positive culture with negative or no smear.

NOTE: Tuberculin status is determined solely on basis of current initial test during contact evaluation. This applies to all tables giving tuberculin status of contacts which follow in this section.

Table 33. CONTACT INVESTIGATION — TUBERCULIN STATUS
BY AGE OF CONTACT AND BACILLARY STATUS OF SOURCE.
TYPE OF SOURCE: PULMONARY TUBERCULOSIS, ACTIVE (DIAGNOSED in 1983)
TYPE OF CONTACT: HOUSEHOLD.
British Columbia, 1983

	AGE-GROUP							TOTAL
	0–14	15–19	20–29	30–39	40–49	50–59	60 & Over	
Positive Smear & Culture								
Total Contacts	50	56	39	27	21	19	29	241
Tuberculin Tested	50	50	36	22	17	16	19	210
Positive[1]	17	28	17	11	9	7	10	99
Percent Positive	34.0	56.0	47.2	50.2	52.9	43.8	52.6	47.1
Positive Culture Only[2]								
Total Contacts	22	24	18	5	6	3	9	87
Tuberculin Tested	18	23	14	5	6	3	7	76
Positive[1]	1	6	7	3	3	2	5	27
Percent Positive	5.6	26.1	50.0	60.0	50.0	66.7	71.4	35.5
Negative Smear & Culture								
Total Contacts	9	4	5	3	–	1	1	23
Tuberculin Tested	6	4	5	3	–	1	1	20
Positive[1]	–	2	2	–	–	–	1	5
Percent Positive	–	50.0	40.0	–	–	–	100.	25.0
Not Examined								
Total Contacts	2	3	1	1	–	–	–	7
Tuberculin Tested	1	3	1	1	–	–	–	6
Positive[1]	–	–	1	1	–	–	–	2
Percent Positive	–	–	100.0	100.0	–	–	–	33.3

[1] Includes persons with a reaction of 10 mm. or greater
[2] Includes positive culture, negative or no smear.

Table 34. CONTACT INVESTIGATION—TUBERCULIN STATUS
BY AGE OF CONTACT AND BACILLARY STATUS OF SOURCE
TYPE OF SOURCE: PULMONARY TUBERCULOSIS, ACTIVE (DIAGNOSED in 1983)
TYPE OF CONTACT: NON-HOUSEHOLD.
British Columbia, 1983

	AGE GROUP							TOTAL
	0-14	15-19	20-29	30-39	40-49	50-59	60 & Over	
Positive Smear & Culture								
Total Contacts	116	221	220	165	120	89	131	1062
Tuberculin Tested	105	202	209	147	111	84	85	943
Positive[1]	15	59	80	64	60	43	22	343
Percent Positive	14.3	29.2	38.3	43.5	54.1	51.2	25.9	36.4
Positive Culture Only[2]								
Total Contacts	29	22	53	38	12	10	27	191
Tuberculin Tested	27	19	47	33	12	9	11	158
Positive[1]	3	6	17	10	6	6	4	52
Percent Positive	11.1	31.6	36.2	30.3	50.0	66.7	36.4	32.9
Negative Smear & Culture								
Total Contacts	3	8	11	10	4	3	11	50
Tuberculin Tested	3	8	11	10	4	3	4	43
Positive[1]	-	2	3	3	-	-	1	9
Percent Positive	-	25.0	27.3	30.0	-	-	25.0	20.9
Not examined								
Total Contacts	4	4	6	7	2	4	1	28
Tuberculin Tested	4	4	5	5	2	4	1	25
Positive[1]	-	1	1	-	-	1	1	4
Percent Positive	-	25.0	20.0	-	-	25.0	100.0	16.0

[1] Includes persons with a reaction of 10 mm. or greater.
[2] Includes positive culture, negative or no smear.

SECTION VI

TUBERCULOSIS MORTALITY

TABLES 35 - 39

Table 35. TUBERCULOSIS (ACTIVE) DEATHS NOTIFIED ON DEATH
British Columbia, 1983

	Tuberculosis Principal Cause of Death	Tuberculosis Contributing Cause of Death	Tuberculosis Not Related to Death	TOTAL
Notified on death	2	6	2	10
Notified on death but diagnosed during life.	5	10	1	16
TOTAL	7	16	3	26

Table 36. TUBERCULOSIS (ACTIVE) DEATHS BY DIAGNOSIS
British Columbia, 1983

	Tuberculosis Principal Cause of Death	Tuberculosis Contributing Cause of Death	Tuberculosis Not Related to Death	TOTAL
Miliary	2	-	-	2
Silico-TB	-	1	-	1
Far Advanced	3	5	-	8
Moderately Advanced	-	4	-	4
Minimal	1	3	2	6
Lymphadenitis	-	1	-	1
Pleurisy	-	-	1	1
Peritonitis	1	-	-	1
Renal	-	1	-	1
Bone & Joint	-	1	-	1
TOTAL	7	16	3	26

Table 37. TUBERCULOSIS (ACTIVE) DEATHS BY COUNTRY OF BIRTH
British Columbia, 1983

	Tuberculosis Principal Cause of Death	Tuberculosis Contributing Cause of Death	Tuberculosis Not Related to Death	TOTAL
Canadian Born				
Native Indians	2	1	-	3
Others	1	8	1	10
Foreign Born	4	7	2	13
TOTAL	7	16	3	26

Table 38. TUBERCULOSIS (ACTIVE) DEATHS BY AGE AND SEX
British Columbia, 1983

		Tuberculosis Principal Cause of Death	Tuberculosis Contributing Cause of Death	Tuberculosis Not Related to Death	TOTAL
25 - 44 Years	M	-	-	-	-
	F	-	1	-	1
45 - 64 Years	M	1	6	-	7
	F	1	1	-	2
65 - 84 Years	M	3	5	1	9
	F	1	1	1	3
85 & Over	M	-	2	1	3
	F	1	-	-	1
TOTAL		7	16	3	26

Table 39. TUBERCULOSIS (ACTIVE) DEATHS BY DIAGNOSIS AND BACILLARY STATUS
British Columbia, 1983

DIAGNOSES	NOTIFIED ON DEATH		NOTIFIED ON DEATH BUT DIAGNOSED DURING LIFE	
	Bacillary Only	All Active Cases	Bacillary Only	All Active Cases
Miliary	-	1	1	1
Far Advanced	3	3	5	5
Silico-Tuberculosis	-	-	1	1
Moderately Advanced	1	1	3	3
Minimal	3	3	3	3
Non-Pulmonary	1	2	2	2
Pleurisy	-	-	-	1
TOTAL	8	10	15	16

SECTION VII

ACTIVE TUBERCULOSIS AMONG REGISTERED INDIANS

TABLES 40 - 42

Table 40. INCIDENCE OF ACTIVE TUBERCULOSIS AMONG REGISTERED INDIANS, AGE-GROUP AND SEX, British Columbia, 1983.

AGE-GROUP	MALE		FEMALE		TOTAL	
	Bacillary Cases	All Active Cases	Bacillary Cases	All Active Cases	Bacillary Cases	All Active Cases
0 - 14	3	3	1	5	4	8
15 - 24	3	3	1	1	4	4
25 - 34	7	8	-	-	7	8
35 - 44	6	7	3	3	9	10
45 - 54	2	3	3	3	5	6
55 - 64	9	9	1	1	10	10
65 - 74	2	3	-	-	2	3
75 & Over	1	1	-	-	1	1
TOTAL	33	37	9	13	42	50
RATES	111.3	125.0	31.2	45.1	71.9	85.6

NOTE: Rates are based on the 1983 estimated population per 100,000.

Table 41. **PRINCIPAL DIAGNOSIS OF ACTIVE TUBERCULOSIS AMONG REGISTERED INDIANS AND BACILLARY CASES, British Columbia, 1983**

DIAGNOSIS	BACILLARY ONLY		ALL ACTIVE CASES		BACILLARY AS PERCENT OF ALL ACTIVE CASES
	Number	Percent	Number	Percent	
PULMONARY					
Primary	2	4.8	5	10.0	40.0
Minimal	10	23.8	10	20.0	100.0
Moderately Advanced	14	33.3	14	28.0	100.0
Far Advanced	8	19.0	8	16.0	100.0
Miliary	-	-	2	4.0	-
Pleurisy	2	4.8	3	6.0	66.7
NON-PULMONARY					
Lymphatic System	3	7.1	4	8.0	75.0
Skin	1	2.4	1	2.0	100.0
Meninges & Central Nervous System	-	-	1	2.0	-
Intestines & Peritoneum	-	-	-	-	-
Bones & Joints	-	-	-	-	-
Genito-Urinary System	2	4.8	2	4.0	100.0
TOTAL	**42**	**100.0**	**50**	**100.0**	**84.0**

Table 42. ACTIVE TUBERCULOSIS BY HEALTH DISTRICT OF RESIDENCE FOR REGISTERED INDIANS, British Columbia, 1983

HEALTH DISTRICT	NUMBER
North Okanagan	1
South Okanagan	1
Simon Fraser	1
Central Vancouver Island	1
Upper Island	4
Cariboo	3
Skeena	8
Peace River	3
Northern Interior	9
Metropolitan Board of Health of Greater Vancouver	17
Boundary	1
Coast-Garibaldi	1
TOTAL	50